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| 10/564,151 | 01/11/2006 | Kazuhiro Obae | 1830.1017 | 6110 |
| 21171 7590 05/11/2010 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | | |
| EXAMINER | | | | |
| KASSA, TIOABU | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,151

Applicant(s)

OBAE ET AL.

Examiner

TIGABU KASSA

Art Unit

1619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 13-19 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the amendment filed June 15, 2009. **Claims 1-6, 13-19, and 24 are pending. Claims 13-15 and 24 are under consideration in the instant office action.** Claims 1-6 and 16-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claims. Claims 7-12 and 20-23 and 25-26 are cancelled. Applicant's amendment has necessitated a new ground of rejection. Accordingly, this Action is FINAL.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Examiner Kassa in Art Unit 1619.

Withdrawn rejections

Applicant's amendments and arguments filed on 06/15/09 are acknowledged and have been fully considered. All rejections applied in the previous office action are hereby withdrawn as a result of applicants claim amendments.

New Rejections

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. The incorporation of the recitation “in a pressure less than atmospheric pressure” is not described and incorporated in the original disclosure. The original disclosure has support for “under reduced pressure” in paragraphs 0042 and 0068. The examiner contends that “reduced pressure” can be interpreted in many ways since applicants did not define the phrase with a point of reference in the original disclosure. Therefore, “reduced pressure” does not constitute support for the recitation of “in a pressure less than atmospheric pressure”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness

Claims 13-15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baensch et al. (US Patent 5759581) as evidenced by Kesselmans et al. (US Patent No. 6822091).

Applicant Claims

Applicants claim a method for producing functional starch powder which comprises: heat-treating a starch raw material at 100 to 130°C in a pressure less than atmospheric pressure; heating the starch raw material in the presence of water at 60 to 150°C to swell starch particles of the starch raw material, and subsequently drying the swollen starch particles to obtain a powder mixture comprising starch particles and amylose and amylopectin which are present in the exteriors of these starch particles, wherein the properties of the starch powder are as recited in the claims. The dependent claims thereof recite the starting raw material is potato starch.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Baensch et al. teach a food grade texture agent in the form of thermally stabilized swelling resistant and non crystalline particles of high amylose starch, which present a gelled soft structure, in which the amylose content of the starch is between 40 and 70%, and in which 90% of the particles have a diameter in the range of 5 to 30 microns (see abstract). Baensch et al. in column 2, lines 22-44 teach **a process for the preparation of the above-defined food grade texture agent, which comprises the steps of suspending the high amylose starch in water, heating the slurry thus obtained at about 90 to 100 °C, preferably 95-100 °C, under continuous controlled stirring without shearing, but sufficient to avoid particle aggregation and so as to form the aimed particle gel product, and then cooling said product.** The stirring must effectively be such that a high shearing is avoided which could destroy the particles. However, the stirring has to be sufficient to avoid particle aggregation during the heat treatment and to thus allow the stabilization of the particle structure. Preferably, the process includes a second heating step up to 40 to 80 °C. **The above process can be advantageously carried out under a pressure of about 0.3 bar (which the examiner notes that is lower than atmospheric pressure).** Each step of this process can be of about 30 min. for the first heating up to 95-100 °C, maintaining said temperature during about 30 min., cooling the product obtained up to about room temperature within about 25 min., further heating said product up to 40-80 °C. within about 15 min., and cooling it again within about 5 min. to room temperature. The average diameter of the particles is of about 15mm, whereas the particles size distribution is such that 90% of the particles have a diameter in the range of about 5 to 30 microns (column 2, lines 52-55).

Baensch et al. teach that the product can also further be dried to powdered form to be reconstituted in water, for example either by freeze-drying and milling or by spray-drying (column 2, lines 62-64).

Baensch et al. teach a process for preparing a food texture grade texture agent comprising: a) suspending a high amylose starch having an amylose content ranging from 40 to 70% in water so as to obtain a slurry which is free of added enzymes; b) heating the slurring of step a to a temperature of about 80 to 100 °C with continuous controlled stirring without shearing so as to form a particle gel product which is non crystalline and resistant to swelling up to 120 °C; and c) cooling said particulate gel product of step b) to room temperature to form a cooled particulate gel product (claim 8). The heating of the slurry of step b) is carried out under a pressure of about 0.3 bar and at least about 95 °C (claim 9). The process further comprises the steps d) heating the cooled product of step c) to about 40 to 80 °C to obtain a reheated particulate gel product; and e) cooling the reheated particulate gel product of step d) to room temperature (claim 10). The process further comprising the step d) drying the cooled particulate gel product of step c) to a powder (claim 12).

Baensch et al. teach that as starting products for the preparation of the aimed particular starch, two different kinds of native high amylose starch have been used, i.e. "Eurylon VII" containing 70% amylose and "Amaizo 2568F" containing 45-50% of amylose (column 5, lines 9-14). Other products have been used in this example, such as native potato starch, wheat starch and rice starch (from Sugro AG, Basel, Switzerland), etc., (column 5, lines 15-23). With regard to the amount of amylose and amylopectin the examiner incorporates Kesselmans et al. as

evidentiary reference to prove that for example potato starch granules isolated from potato tubers usually contain about 20% amylose and 80% amylopectin (wt. % on dry substance) in column 3, lines 1-4. Baensch et al. teach regarding the particles size distribution, the results obtained with "Eurylon" are as follows: starting product (Eurylon): 90% between about 2 and 15 microns (about 10% < 2 microns), after first heating step: 90% between 6 and 60 microns, and particulate starch of the invention: 90% between about 5 and 30 microns (about 10% > 30 microns).

The examiner notes that the first and second heating temperatures and particle sizes are taught by Baensch et al. in overlapping manner. The examiner takes the position the since Baensch et al. extremely similar steps as the instantly claimed process water retention capacity, collapse time, and gel indentation load are necessarily similar and would be inherent of the product.

*Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)*

The first and second heating temperatures and particle sizes are taught by Baensch et al. in overlapping manner.

*Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)*

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to produce the instant invention following the processes taught by Baensch et al. because Baensch et al. teach **a process for preparing a food texture grade texture agent comprising: a) suspending a high amylose starch having an amylose content ranging from 40 to 70% in water so as to obtain a slurry which is free of added enzymes; b) heating the slurring of step a to a temperature of about 80 to 100 °C with continuous controlled stirring**

without shearing so as to form a particle gel product which is non crystalline and resistant to swelling up to 120 °C; and c) cooling said particulate gel product of step b) to room temperature to form a cooled particulate gel product (claim 8). The heating of the slurry of step b) is carried out under a pressure of about 0.3 bar and at least about 95 °C (claim 9). The process further comprises the steps d) heating the cooled product of step c) to about 40 to 80 °C to obtain a reheated particulate gel product; and e) cooling the reheated particulate gel product of step d) to room temperature (claim 10). The process further comprising the step d) drying the cooled particulate gel product of step c) to a powder (claim 12). With regard to the heating temperature ranges and particle sizes of the starch powder, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Similarly, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Furthermore, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). A skilled artisan would have had a reasonable expectation of success in producing the instant invention following the steps taught

by Baensch et al. because Baensch et al. all the steps except that the heating temperatures and the particle sizes of the starch powder are taught in overlapping manner.

In light of the forgoing discussion, one of ordinary skill in the art would have concluded that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

Claims 13-15 and 24 are rejected. Claims 1-6 and 16-19 are withdrawn. Claims 7-12 and 20-23 and 25-26 are cancelled. No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIGABU KASSA whose telephone number is (571)270-5867. The examiner can normally be reached on 9 am-5 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne P. Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tigabu Kassa
/YVONNE L. EYLER/

04/26/10

Supervisory Patent Examiner, Art Unit 1619